IN THE CLAIMS:

1.-10. (Withdrawn)

11. (Canceled)

12. (Currently Amended) Process according to claim ~~11~~24, wherein the initiator comprises a chlorosilane, an alkoxysilane, a disulphide or a thiol group.

13. (Currently Amended) Process according to claims ~~11~~24 or 12 wherein the initiator comprises a group chosen from azo groups, peroxo groups, or a ketone group in conjugation with an aromatic system.

14. (Original) Process according to claim 13, wherein the initiator comprises a group chosen from aromatic ketones or aromatic ketones containing sulphur.

15.-23. (Withdrawn)

24. (New) A process for the production of a polyfunctional copolymer monolayer, comprising an assembly of copolymer chains attached to a surface wherein each polymer chain comprises a multitude of identical or different units carrying one or more functional groups which allow an interaction of the polymer chain with a sample or probe molecule, comprising the steps of:

a) immobilizing a plurality of polymerization initiators on said surface, wherein said initiators comprise one or more functional groups for linkage to the surface and subsequent polymerization reactions on said initiated surface;

b) initiating polymerization reactions in the presence of (a) a first set of

identical or non-identical monomers, each of which comprise at least one functional group which can interact with a sample or probe molecule and (b) a comonomer, and

c) carrying out polymerization reactions in the presence of said monomers;

wherein the assembly of the polymer chains produced in step c) linked to said surface results in a polyfunctional copolymer monolayer.